

Applicant presumes Examiner to mean to refer to claim 20 rather than claim 1.

The quoted recitation merely reflects a feature that is inherently part of the circuit arrangement of Fig. 1. That this is so may perhaps be understood by Examiner by carefully reading the following explanation.

With reference to Fig. 1 of the specification, which includes a half-bridge inverter substantially identical to that of Fig. 1 of Applicant's (i.e., Nilssen's) patent No. 4,506,318, the voltage present between the B- bus and the B+ bus is merely the (amplitude-modulated or pulsing) DC voltage resulting from non-filtered full-wave-rectification of the 277Volt/60Hz power line voltage. This type of waveform is illustrated by waveform (a) of Fig. 2 of Nilssen '318.

(In this connection, Examiner should note that instant application is a continuation-in-part of Nilssen's patent No. 4,506,318; which patent is expressly referred-to in the second paragraph at page 5 of the specification.)

As a person having ordinary skill in the art pertinent hereto would know, the instantaneous absolute magnitude of a non-filtered full-wave-rectified AC voltage is substantially equal to that of the AC voltage itself -- the only difference resulting from the relatively tiny forward voltage drop of the rectifiers.

Thus, the instantaneous absolute magnitude of the DC voltage supplied to the half-bridge inverter of Fig. 1 of instant application is substantially equal to that of the power line voltage supplied from power line conductors PLC.

When the half-bridge inverter oscillates, it causes junction JQ -- and thereby junction X -- alternately and periodically to connect with the B- bus and the B+ bus. Thus, since junction JC will remain at the mid-point of the DC voltage between the B- bus and the B+ bus, the voltage developing between junctions JC and JQ (or X) will be a squarewave voltage with peak-to-peak magnitude equal to the of the DC voltage existing between the B- bus and the B+ bus; which -- to a person having ordinary skill in the pertinent art -- means that the instantaneous absolute magnitude of this squarewave voltage is substantially equal to half the absolute instantaneous magnitude of the DC voltage present between the B- bus and the B+ bus. (Had the inverter been a full-bridge inverter instead of a half-bridge inverter, the instantaneous absolute magnitude of the squarewave output voltage would have been equal to the full absolute instantaneous magnitude of the DC voltage supplied to the inverter.)

In other words:

(i) junction JC, which is connected with one of the two track conductors, is at a potential that remains fixed at the mid-point between the B- bus and the B+ bus;

(ii) junction X, which is connected with the other one of the two track conductors (and which is of a potential that is substantially identical to that of junction JQ), alternates periodically between being at the potential of the B- bus and being at the potential of the B+ bus -- spending only a negligible time in transition between these two potentials;

(iii) the difference between the potential at junction JC and that of junction X equals the high-frequency AC voltage provided to the track conductors;

(iv) therefore, whenever the inverter operates as an inverter, the instantaneous absolute magnitude of this high-frequency AC voltage is substantially equal to half that of the low-frequency AC voltage;

(v) since, as expressly recited in lines 1-4 of claim 20, as expressly referred-to in the first four paragraphs at page 6 of the specification, and as expressly illustrated by waveform (b) of Fig. 2 of Nilssen '318 (which is expressly referred-to in the specification), the inverter is arranged to oscillate for a part of each half-period (or half-cycle) of the AC power line voltage; which therefore provides support for that part of the recitation of claim 20 that Examiner emphasized by underlining.

(b) Examiner holds that the specification lacks support for the following recitation in claim 26:

"the high frequency AC voltage being amplitude-modulated,...".

Applicant believes that, by carefully reading the explanation provided in section (a) above, Examiner will understand that this recitation is indeed thoroughly supported by the specification.

(c) Examiner holds that the specification lacks support for the following recitation in claim 33:

"the [a?] power factor [factor?] of at least 80%".

Applicant believes that, by reading the fourth paragraph at page 6 of the specification, Examiner will understand that this recitation is indeed thoroughly supported by the specification.

(d) Examiner holds that the specification lacks support for the following recitation in claim 36:

"...a high frequency square wave..."

Applicant believes that, by carefully reading the explanation provided in section (a) above, Examiner will understand that this recitation is indeed thoroughly supported by the specification.

Examiner's attention is also directed to the last paragraph at page 5 of the specification; which paragraph states that:

"the instantaneous absolute magnitude of the voltage provided at the inverter's output -- i.e., the output provided between junction JC and point X -- is substantially equal to half that of the DC supply voltage".

To a person possessing ordinary skill in the art pertinent hereto, this statement inherently requires the inverter output voltage to be a squarewave voltage.

(e) Presumably, Examiner holds that the specification lacks support for the following recitation in claim 20:

"..during said part of each half period, the instantaneous absolute magnitude of the high freq AC voltage being substantially equal to half that of the low-frequency AC voltage".

Applicant believes that, by carefully reading the explanation provided in section (a) above, Examiner will understand that this recitation is indeed thoroughly supported by the specification.

Examiner's attention is also directed to the last paragraph at page 5 of the specification; which paragraph states that:

"the instantaneous absolute magnitude of the voltage provided at the inverter's output -- i.e., the output provided between junction JC and point X -- is substantially equal to half that of the DC supply voltage".

To a person possessing ordinary skill in the art pertinent hereto, this statement inherently requires the inverter output voltage to be a squarewave voltage.

Examiner also rejected claims 20-37 under 35 USC 103 as being unpatentable over Spira in view of Kivari and Neumann.

Applicant traverses these rejections for the following reasons.

(f) Exemplary claim 20 includes:

"voltage conditioning means ... operative, but only during a part of each half-period, to provide a high-frequency AC voltage to the track conductors".

This feature is neither described nor suggested by Spira (or by any of the other applied references, for that matter).

In supporting his rejections, Examiner fails to show where and/or how the applied references disclose and/or suggest this feature.

(g) Exemplary claim 26 includes:

"voltage conditioning means ... operative to provide a high-frequency AC voltage to the track conductors ... the high-frequency AC voltage being amplitude-modulated".

This feature is neither described nor suggested by Spira (or by any of the other applied references, for that matter).

In supporting his rejections, Examiner fails to show where and/or how the applied references disclose and/or suggest this feature.

(h) Exemplary claim 33 includes:

"voltage conditioning means ... operative ... to draw power from the power line terminals with a power factor of at least 80%".

This feature is neither described nor suggested by Spira (or by any of the other applied references, for that matter).

In supporting his rejections, Examiner fails to show where and/or how the applied references disclose and/or suggest this feature.

(i) Exemplary claim 36 includes:

"voltage conditioning means ... operative to provide a high-frequency squarewave voltage to the track conductors".

This feature is neither described nor suggested by Spira (or by any of the other applied references, for that matter).

In supporting his rejections, Examiner fails to show where and/or how the applied references disclose and/or suggest this feature.

Examiner's attention is directed to Spira's column 4, lines 50-53.

Examiner also rejected claims 20-37 under 35 USC 103 as being unpatentable over Nilssen '318 in view of Kivari and Neumann.

Applicant traverses these rejections for the following reasons.

(j) In supporting his position, Examiner holds that:

"Claims of present application recite features which was not disclosed in the parent application serial number 487,817 ... therefore Nilssen '318 remains a valid reference ...".

Applicant disagrees with Examiner's position.

That part of the subject matter of Nilssen '318 which is also present in the specification of instant application clearly has a priority date of Nilssen '318. Therefore, since the subject matter from Nilssen '318 which Examiner depends on in instant rejections is also present in the specification of instant application, it is inappropriate of Examiner to apply Nilssen '318.

Perhaps Examiner meant to reject the claims on basis of the doctrine of obviousness-type double patenting?

A handwritten signature in dark ink, appearing to read 'Ole K. Nilssen', with a long horizontal flourish extending to the right.

Ole K. Nilssen, Pro Se Applicant